

Features

- Wide 2 : 1 Input Voltage Range(9~18V,18~36V,36~75V)
- Output Current up to 4A
- Fixed Switching Frequency
- Input / Output Isolation Voltage: 1.5K Vdc
- Extended Operating Temperature Range: -40°C to +71°C
- Output Short Circuit Protection:
Continuous & Auto Recovery
- Over Voltage Protection: Clamp Mode
- Shielded Metal Case with Insulated Baseplate
- Lead Free Design, RoHS Compliant
- Industry Standard Pinout
- Customer Design Available



Description

The BUA15L Series are isolated 15W DC/DC converters. Designed with highly efficiency, allow the operating temperature range of these units to be -40°C to +71°C in a 50.8x25.4x10.2mm package with industry-standard pinout. Further features include wide 2 : 1 input voltage range, output short-circuit protection and over voltage protection.

Applications

These converters are well suitable for battery operated equipment, measurement equipment, telecom, wireless network, Industry control system, everywhere where isolated, tightly regulated voltages and compact size are required.

Technical Specification

All specifications are typical at nominal input, full load and 25°C unless otherwise stated.

Model Number	Input Voltage Range	Output Voltage (Vdc)	Output Current (mA)		Input Current (mA)		Eff. ⁽²⁾ (%)	Capacitive Load, max. ⁽³⁾ (uF)
			Min. Load ⁽¹⁾	Full. Load	No Load	Full Load		
BUA15-12S0L	9~18V Nominal:12Vdc	3.3	200	4000	7	1467	79	10000
BUA15-12S1L		5.1	120	3000	7	1623	81	600
BUA15-12S2L		12	0	1250	18	1543	85	1800
BUA15-12S3L		15	0	1000	21	1524	86	990
BUA15-12D2L		±12	0	±625	28	1543	85	470
BUA15-12D3L		±15	0	±500	29	1524	86	100
BUA15-24S0L	18~36V Nominal:24Vdc	3.3	200	4000	5	724	80	10000
BUA15-24S1L		5.1	95	3000	6	791	83	10000
BUA15-24S2L		12	0	1250	10	762	86	1700
BUA15-24S3L		15	0	1000	11	753	87	660
BUA15-24D2L		±12	0	±625	14	762	86	430
BUA15-24D3L		±15	0	±500	36	762	86	220
BUA15-48S0L	36~75V Nominal:48Vdc	3.3	200	4000	2	362	80	10000
BUA15-48S1L		5.1	120	3000	3	401	82	8440
BUA15-48S2L		12	0	1250	6.5	377	87	1000
BUA15-48S3L		15	0	1000	8	372	88	470
BUA15-48D2L		±12	0	±625	8	377	87	330
BUA15-48D3L		±15	0	±500	8	377	87	160

Input Specifications

Input Voltage	12V nominal input	9-18Vdc
	24V nominal input	18-36Vdc
	48V nominal input	36-75Vdc
Input filter		Pi Type
Input surge voltage (100ms max.)	12V input	25Vdc
	24V input	50Vdc
	48V input	100Vdc
Input reflected ripple current	Nominal Vin and full load	80mA _{p-p} typ.
Start up time	Nominal Vin and constant resistive load	680ms typ.

Environmental Specifications

Operating ambient temperature	-40°C to +71°C(without derating)	
Maximum case temperature	+100°C	
Storage temperature range	-55°C to +105°C	
Relative humidity	5% to 95% RH	
Temperature coefficient	±0.02% / °C max.	

Output Specifications

Output power	15 Watts max.	
Voltage accuracy	Full load and nominal Vin	±1%
Minimum load	See table	
Line regulation	LL to HL at full load	±0.5%
	25% load to full load	Single ±1%
Load Regulation	Balanced load	Dual ±0.5%
	Unbalanced load 25% to 100% full load	±3%
Ripple and Noise	20MHz Bandwidth	75mV _{p-p} max.
Over voltage protection (Zener Diode Clamp)	3.3V _{out} models	3.9V
	5V _{out} models	6.2V
	12V _{out} models	15V
	15V _{out} models	18V
Capacitive load	See table	
Over load protection	% of full load at nominal input	150% typ.
Short circuit protection	Continuous, automatic recovery	
Transient response settling time	50% load step change	2200μs typ.
Transient response over shoot	di/dt=0.8A/μs	≤ ±5% of Vo



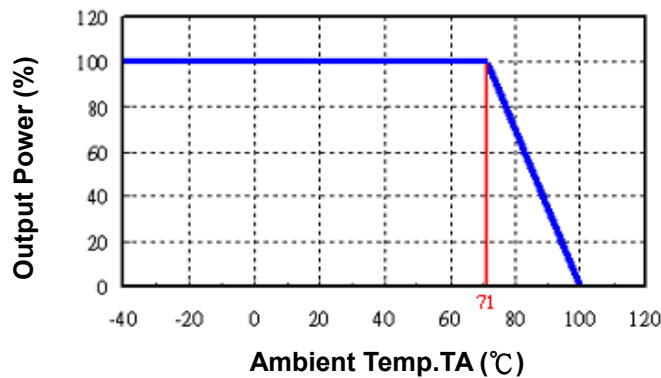
General Specifications

Efficiency	Nominal input	See table
Isolation voltage	Input to output	1500Vdc
Isolation resistance		10 ⁹ Ohms min.
Isolation capacitance		580pF typ.
Switching frequency		300kHz typ.
Reliability, calculated MTBF		2.24 × 10 ⁶ Hrs

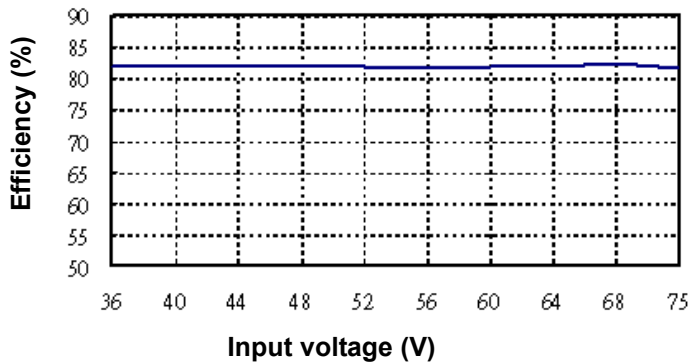
Physical Specifications

Case material	Nickel-coated copper
Base material	Non-conductive black plastic
Potting material	Silicon rubber (UL94V-0)
Dimensions	2.0 × 1.0 × 0.4 Inch (50.8 × 25.4 × 10.2 mm)
Weight	32.0g (1.13oz) typ.

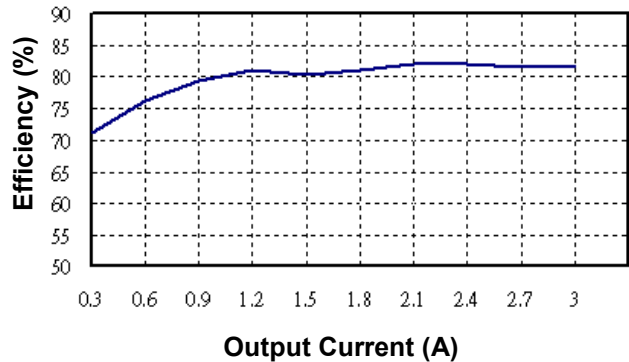
**BUA15L Series
Power Derating Curve ⁽⁴⁾**



**BUA15-48S1 L
Input voltage vs. Efficiency**



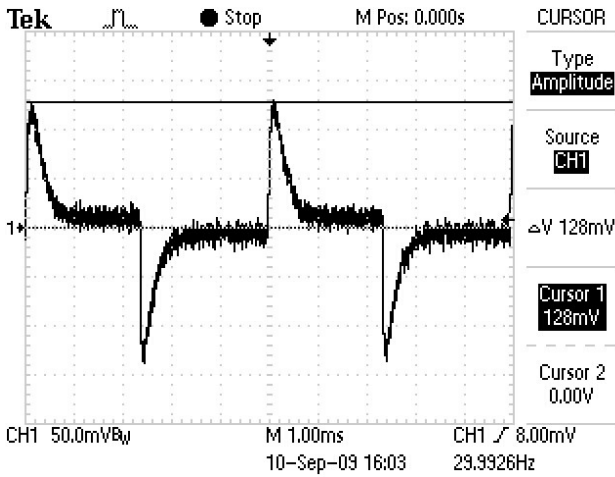
**BUA15-48S1L
Output Current vs. Efficiency**





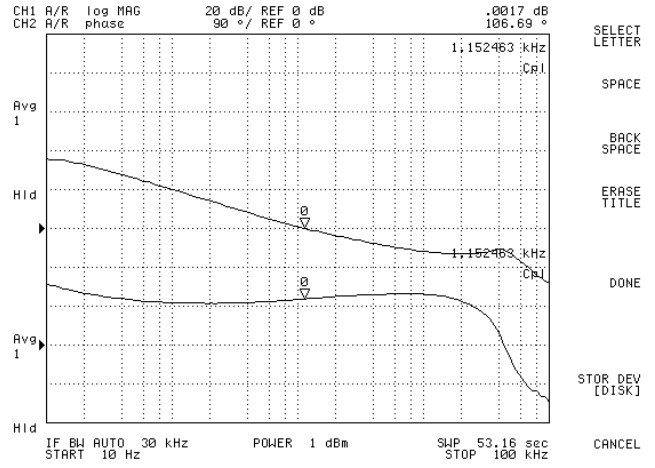
BUA15-48S1L

Transient Response at 50%~100% Max Load



BUA15-48S1L

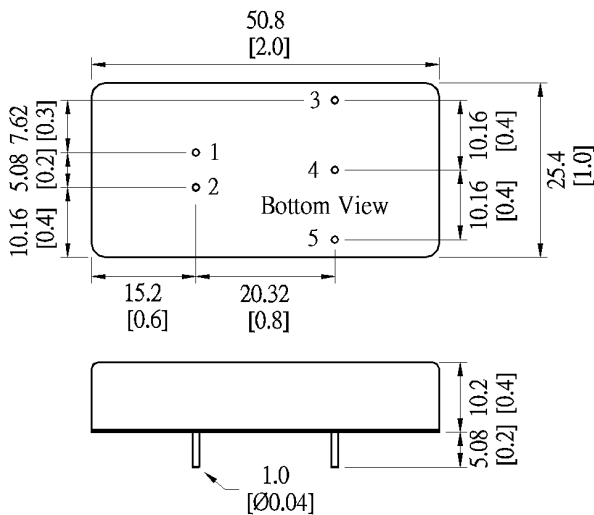
Loop Gain & Phase at Vi=48V, Full Load



Note

1. Io below this value will not damage these converters, however, they may not meet all listed specifications.
2. Typical value, tested at nominal input and full load.
3. For each output.
4. Based on BUA15-48S1L.

Mechanical Dimensions



Unit: mm [inch]
Tolerance: ±0.5[0.02]

Pin Assignment		
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	No pin	Common
5	-Vout	-Vout

Specifications subject to change without notice.